

Application No. 10/652,817
Reply to office action of June 6, 2005

AMENDMENTS TO THE CLAIMS

This listing of claims replaces, without prejudice, all previous versions and listings of claims in this application.

1. (Previously presented) A chip bin having an upper part through which chips are arranged to fall freely from an inlet;

a lower part within which chips are arranged to remain until they are removed by a feeding device downstream;

a level sensor arranged to detect a level of said chips between said upper part and said lower part; and

steam orifices above said level arranged to strike chips falling from said inlet with steam and thereby to disperse said chips over the interior of said chip bin.

2. (Original) A chip bin according to claim 1, comprising upwardly angled steam orifices arranged to direct steam upward at said chips and thereby to delay the falling of the chips.

3. (Original) A chip bin according to claim 2, comprising steam orifices angled tangentially.

4. (Previously presented) A chip bin according to claim 1, comprising at least one conical baffle projecting from a wall of said bin to guide the falling chips away from the wall of the bin, and steam orifices disposed below said at least one baffle and arranged to direct steam at chips falling past said baffle in said upper part of said chip bin.

5. (Currently amended) A chip bin ~~according to claim 4~~, having an upper part through which chips are arranged to fall freely from an inlet;

a lower part within which chips are arranged to remain until they are removed by a feeding device downstream;

a level sensor arranged to detect a level of said chips between said upper part and said lower part; and

steam orifices above said level arranged to strike chips falling from said inlet with steam and thereby to disperse said chips over the interior of said chip bin;

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further comprising at least one conical baffle projecting from a wall of said bin to guide the falling chips away from the wall of the bin, steam orifices disposed below said at least one baffle and arranged to direct steam at chips falling past said baffle in said upper part of said chip bin, and an exhaust pipe arranged to extract gases from a space under said at least one baffle.

6. (Previously presented) A chip bin according to claim 1, comprising at least two treatment zones in said upper part of said chip bin through which said chips fall successively, each with steam orifices arranged to direct steam onto said falling chips.

7. (Previously presented) A chip bin according to claim 1, comprising a temperature sensor in said lower part of said chip bin arranged to monitor the temperature of chips and to regulate the supply of steam to said upper part of said chip bin in order to regulate said temperature.

8. (Original) A chip bin according to claim 1, further comprising a source of cooking liquor arranged to supply said cooking liquor into said lower part of said chip bin.

9. (Canceled)

10. (Original) A chip bin having a tapered lower part from which chips are arranged to be removed through an outlet at the bottom of said tapered part, comprising:
steam orifices positioned to direct steam downward along the surface of said tapered part within said chip bin.

11. (Original) A chip bin according to claim 10, further comprising a sensor arranged to detect flow of chips towards said outlet, and to increase the rate of flow of steam through said steam orifices when said sensor indicates a lack of normal flow of said chips.

12. (Original) A chip bin according to claim 11, further comprising additional steam nozzles in said tapered part arranged to supply steam only when said sensor indicates a lack of normal flow of said chips.

13. (Canceled)

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14. (Previously presented) Apparatus for digesting wood chips to produce pulp, comprising:

a digester; and

a chip bin having a lower part within which chips are arranged to remain until they are transferred to said digester, the chip bin having an upper part through which chips are arranged to fall freely from an inlet to said lower part, a level sensor arranged to detect a level of chips in the bin, and including steam orifices arranged above the level of chips said level sensor is arranged to detect to strike chips falling from said inlet with steam and thereby to disperse said chips over the interior of said chip bin.

15. (Original) Apparatus according to claim 14, wherein said chip bin comprises upwardly angled steam orifices arranged to direct steam upward at said chips and thereby to delay the falling of the chips.

16. (Original) Apparatus according to claim 15, wherein said chip bin comprises steam orifices angled tangentially.

17. (Previously presented) Apparatus according to claim 14, wherein said chip bin further comprises at least one conical baffle projecting from a wall of said bin to guide the falling chips away from the wall of the bin, and steam orifices disposed below said at least one baffle and arranged to direct steam at chips falling past said baffle in said upper part of said chip bin.

18. (Original) Apparatus according to claim 17, wherein said chip bin further comprises an exhaust pipe arranged to extract gases from a space under said at least one baffle.

19. (Previously presented) Apparatus according to claim 14, wherein said chip bin comprises at least two treatment zones in said upper part of said chip bin through which said chips fall successively, each with steam orifices arranged to direct steam onto said falling chips.

20. (Previously presented) Apparatus according to claim 14, wherein said chip bin further comprises a temperature sensor arranged in said lower part of said chip bin to

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monitor the temperature of chips and to regulate the supply of steam to said upper part of said chip bin in order to regulate said temperature.

21. (Original) Apparatus according to claim 14, further comprising a source of cooking liquor for said digester, wherein said source is arranged to supply said cooking liquor into said lower part of said chip bin.

22. (Previously presented) Apparatus for digesting wood chips to produce pulp, comprising:

a digester; and

a chip bin having a lower part within which chips are arranged to remain until they are transferred to said digester, said chip bin having an upper part through which chips are arranged to fall freely from an inlet to said lower part, and including:

steam orifices arranged to supply steam to said upper part of said chip bin; and

a temperature sensor arranged in said lower part of said chip bin to monitor the temperature of chips and to regulate the supply of steam to said upper part of said chip bin in order to regulate said temperature.

23. (Original) Apparatus for digesting wood chips to produce pulp, comprising:

a digester; and

a chip bin having a lower part within which chips are arranged to remain until they are transferred to said digester;

said chip bin having a tapered lower part from which chips are arranged to be removed through an outlet at the bottom of said tapered part, and comprising steam orifices positioned to direct steam downward along the surface of said tapered part within said chip bin.

24. (Original) Apparatus according to claim 23, wherein said chip bin further comprises a sensor arranged to detect flow of chips towards said outlet, and to increase the rate of flow of steam through said steam orifices when said sensor indicates a lack of normal flow of said chips.

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25. (Original) Apparatus according to claim 24, wherein said chip bin further comprises additional steam nozzles in said tapered part arranged to supply steam only when said sensor indicates a lack of normal flow of said chips.

26. (Canceled)

27. (Previously presented) A chip bin having an upper part through which chips are arranged to fall freely from an inlet;

a lower part within which chips are arranged to remain until they are removed by a feeding device downstream; and

steam orifices in an upper half of said bin arranged to strike chips falling from said inlet in said upper part with steam and thereby to disperse said chips over the interior of said chip bin.

28. (Previously presented) A chip bin according to claim 27, comprising at least two treatment zones in said upper half of said chip bin through which said chips fall successively, each with steam orifices arranged to direct steam onto said falling chips.